



### Benefits

- Provide food and cover for wildlife and fisheries.
- Prevent streambank erosion.
- Filter runoff and absorb nutrients.
- Harvest timber.

### Guidelines

#### Location and Width

- A riparian buffer should extend from the normal water's edge or the top of the bank for a minimum of 35 to 100 feet (*in some cases, the streambank may need to be stabilized by separate treatment where erosion or vertical cutting of the bank has occurred*). The minimum riparian buffer width should be approximately 30% of the floodplain width, but never less than 35 feet.
  - ◇ **Zone 1** is in the channel from the water line or at the top of the bank extending 15 feet, measured horizontally. This is the area most susceptible to erosion. Shrubs are most desirable when Zone 1 is within the channel banks.
  - ◇ **Zone 2** should be at least 20 feet wide measuring from the edge of Zone 1. The combined width of both zones 1 and 2 should be 35 to 100 feet.

- ◇ **Zone 3** is the area adjacent to zone 2 and may be planted in a grass or grass/legume mixture to provide additional wildlife habitat, reduce concentrated flow, and decrease erosion. The filter strip also protects seedlings from sedimentation. (Refer to Filter Strip Jobsheet for plant establishment.)

### Establishment (Trees and Shrubs)

- Planting guides are available from the Tennessee Department of Agriculture, Division of Forestry.
- **Site Preparation** - Areas to be established with trees and/or shrubs should have competing vegetation deadened in a 3-foot diameter around each tree and shrub. Only chemicals approved for application near water bodies can be used.
- **Cuttings** - Cuttings should be 0.5 to 1.5 inches in diameter and 2 to 3 feet long. Branches should be removed from the cutting. Angled cuttings should be driven with a rubber-headed mallet into a pilot hole. Materials should be installed the same day they are prepared. Cuttings should be placed in water until planted. **Willow and silky dogwoods** are two species which have proven to have high survival rates in Tennessee.
- **Seedlings** - Seedlings should be kept in a moist, cool environment until they are planted. Tree seedlings should be heeled into the ground if trees cannot be planted within a week after delivery. At the time of planting, it is recommended that a branch of the seedlings be flagged or marked to help monitor growth and coordinate maintenance.
- **Spacing (feet by feet)**

	Trees	Shrubs
<b>Zone 1</b>	8 x 8	4 X 4
<b>Zone 2</b>	8 to 12 x 8 to 12	4 to 8 x 4 to 8
- **Tree Species** - The species planted should be native and provide multiple benefits for aesthetics, wildlife, and water quality. A mixed species planting is preferable to rows of single species.

# Riparian Forest Buffer

## Maintenance Items

- Mow or perform prescribed burning to control competitive vegetation.
- When using chemicals to control vegetation, read and follow label directions.
- Fences may be necessary to exclude livestock and vehicle traffic. Inspect fences periodically, especially after flooding events.
- No harvesting should be done in Zone 1. On streambanks, periodically cut and remove trees with 30 degrees or greater lean.

- Any harvesting of trees should be done without degrading the buffer zone.
- Zone 2 may be managed for selective timber harvest and other productive uses.

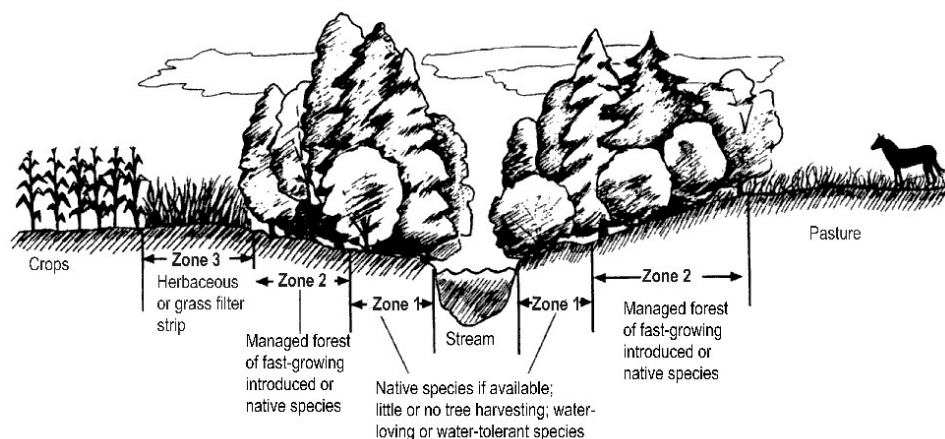
## Complementary Practices:

Fence  
Grade Stabilization Structure  
Prescribed Grazing  
Streambank and Shoreline Protection  
Stream Crossing  
Use Exclusion

The following table lists a few species that may be commonly found in specific regions of West, Middle and East Tennessee. The table notes if the species are suitable for Zone 1 or 2.

PLANT SPECIES	West TN	Middle TN	East TN		PLANT SPECIES	West TN	Middle TN	East TN
Bald Cypress*	1, 2				Red Maple*		2	1,2
Bankers Willow*	1	1	1		Silky Dogwood*	1,2	1	1
Black Walnut	2	2	2		Silver Maple*	1,2	1	
Black Willow*	1,2	1			Swamp Chestnut Oak*	1,2		
Cherrybark Oak	1,2	1,2			Swamp White Oak*	1,2	2	1,2
Cottonwood*	1,2				Sweetgum*	1,2	2	2
Elderberry*		1,2	1,2		Sycamore*	1,2	1,2	1,2
Green Ash*	1,2	1,2	1		Tulip Poplar		2	2
Nuttall Oak	1,2				Water Oak	1,2		
Pin Oak*	2	2	2		Willow Oak*	1,2		

\*Medium to High flood tolerance



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